Amebiasis (*E. histolytica*)

Disease Category: Enteric

Timeframe to follow-up: 1 week

Signs and Symptoms[1]	Many are asymptomatic but may lead to intestinal or extraintestinal disease. Only about 10-20% develop mild symptoms that may include diarrhea, stomach pain, and stomach cramping. Severe disease (amebic dysentery) can cause stomach pain, bloody poop, and fever. Rarely, infection can travel in the blood stream to the liver and form abscesses or may travel to other parts of the body, including lungs and brain.
Incubation[1]	Usually 2 to 4 weeks; range of several days to months or years
Case Classification[1, 2]	Clinical criteria: Infection of the large intestine by Entamoeba histolytica may result in an illness of variable severity ranging from mild, chronic diarrhea to fulminant dysentery. Infection also may be asymptomatic. Extraintestinal infection also can occur (e.g., hepatic abscess).
	Laboratory Criteria: Intestinal amebiasis • Demonstration of cysts or trophozoites of *E. histolytica* in stool, OR • Demonstration of trophozoites in tissue biopsy or ulcer scrapings by culture or histopathology extraintestinal amebiasis Extraintestinal amebiasis: • Demonstration of E. histolytica trophozoites in extraintestinal tissue
	Case Classification Confirmed, intestinal amebiasis: a clinically compatible illness that is laboratory confirmed. Confirmed, extraintestinal amebiasis: a parasitic confirmed infection of extraintestinal tissue, or a parasitic infection among asymptomatic persons (with clinical or radiographic findings consistent with extraintestinal infection), a demonstration of specific antibody against *E. histolytica* as measured by indirect hemagglutination or another reliable immunodiagnostic test (e.g., enzyme-linked immunosorbent assay).
	Comments Asymptomatic intestinal carriage of *E. histolytica* should not be reported. Among asymptomatic persons, a positive serologic test does not necessarily indicate extraintestinal amebiasis.
Differential Diagnosis[3]	Abdominal abscess, campylobacter infection, acute cholecystitis, diverticulitis, alveolar echinococcosis, E. coli infection, hepatitis A, hepatocellular adenoma, inflammatory bowel disease, ischemic colitis, pyogenic hepatic abscesses, salmonellosis, shigellosis, viral hepatitis
Treatment[4]	Treatment should be provided to all patients with *E. histolytica*, including those who are asymptomatic. Paromomycin, iodoquinol, or diloxanide furoate can be

	used for asymptomatic cyst excreters. Metronidazole or tinidazole can be used for cases with intestinal tract symptoms or extraintestinal disease.
Duration	Dependent on severity of infection and type of treatment. If treated, symptoms may last 1-2 weeks; however, parasites may remain in the body for weeks, months, or even years.
Exposure	Ingestion of food or water contaminated with amebic cysts, placing contaminated object in mouth or swallowing parasite picked up from contaminated surfaces in mouth, and can also occur through oral-anal sexual contact[1,5]
Laboratory Testing	Stool nucleic acid amplification tests (NAATs) can differentiate between *E. histolytica,* and other *Entamoeba* species and enzyme immunoassay (EIA) can detect antibody specific to *E. histolytica*. Ultrasonography, computed tomography, and magnetic resonance imaging (MRI) can identify liver abscesses. Nevada State Public Health Laboratory can test for ova and parasites. • https://www.cdc.gov/dpdx/resources/pdf/benchaids/entamoeba_benchaid.pdf • https://pmc.ncbi.nlm.nih.gov/articles/PMC207118/
Control of Contacts[6]	A symptomatic contact shall not work in a sensitive occupation (food, childcare, or medical) until at least one fecal sample is tested. If positive, treat contact as a case and will be excluded from work until cleared by health authority.
Key areas of focus during investigation[1]	Travel history to tropical locations with poor sanitary conditions, immigrated from areas where it is endemic, and any contacts who participated in anal sex.
Public Health Actions	Reports of amebiasis cases must be made to the Local Health Authority during the regular business hours of the health authority on the first working day following the identification of the case. Local Health Authority to notify Office of State Epidemiology (dpbhepi@health.nv.gov) or call 775-684-5911/775-400-0333 (after hours) if outbreak suspected. For individual confirmed or probable cases: • Confirm diagnosis, if possible • Identify potential exposures • Exclude any sensitive occupation cases and symptomatic contacts • Provide prevention education. To the best of the local health authority's ability, each step of the investigation should be completed within one working day or in alignment with NAC 441A.
Key Partner Agencies	• local health authorities • medical providers and laboratories

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AMEBIASIS

I. DISEASE REPORTING

A. Legal Reporting Requirements

A report to the health authority may be made by telephone; telecopy (in the form prescribed by the health authority); or any form of electronic communication identified by the health authority, following the specified format and procedure.[7]

1. Health Care Providers and Health Care Facilities

Health providers and facilities must notify the health authority where provider is located within the first working day after identifying the case.[7, 9]

2. *Laboratories*

Laboratories must notify the health authority within the first working day after identifying the case.[7] If the lab is located outside of Nevada, notify the Nevada Chief Medical Officer through the Office of State Epidemiology (OSE) within the same timeframe.[7, 10]

3. Local Health Authority (LHA)

LHA's must notify the Office of State Epidemiology (OSE) within 7 days after completing the case investigation.[11]

II. THE DISEASE AND ITS EPIDEMIOLOGY

A. Background

Amebiasis is found worldwide, but more commonly in tropical areas with lower socioeconomic status and poor sanitary conditions. Since it is not as common in the United States, it is more often associated international travel, immigrants from areas of endemic infection, institutionalized people, and men who have sex with men. Diagnosis can be difficult since most cases do not exhibit symptoms.[12]

B. Etiologic Agent

The etiological (causative) agent of amebiasis is the protozoan parasite *Entamoeba histolytica*. This parasite is excreted as cysts or trophozoites in the stool of infected people.[13]

C. Description of Illness

While many people with E. histolytica infection are asymptomatic, only about 10-20% develop mild symptoms. These can include diarrhea, stomach pain, and stomach cramping. Some cases may develop severe disease (amebic dysentery) that can cause stomach pain, bloody poop, and fever. Rarely does *E. histolytica* travel through the blood steam to the liver or other parts of the body (brain and lungs).[12] The majority of patients can be managed

medically. However, a small percentage of patients may require urgent exploration and resection associated with a high mortality rate. Early recognition and initiation of medical therapy including treatment of asymptomatic carriers are vital to preventing catastrophic outcomes.[14]

D. Disease Burden in Nevada

The overall prevalence of this type of amebiasis in the U.S. is very low (less than 5%), with most infections associated with travel or immigrant populations.

See the Nevada Office of State Epidemiology Communicable Disease Dashboard for Nevada specific data on Amebiasis disease visit: Office of State Epidemiology

E. Reservoirs

The parasite lives only in humans and can be spread by someone who is chronically ill or asymptomatic.[1]

F. Modes of Transmission

Transmission can occur person-to-person or through ingestion of contaminated food or water.[1]

G. Incubation Period

The incubation period is most commonly 2 to 4 weeks, but can range between a few days, months, or years.[1]

H. Period of Communicability

The amebiasis communicability period lasts as long as the infected person excretes Entamoeba histolytica cysts in their stool, which can be for years, even in people without symptoms.[13]

I. Testing

Stool nucleic acid amplification tests (NAATs) have the highest sensitivity and specificity to detect and differentiate *E. histolytica* from other *Entamoeba* species. Enzyme immunoassay (EIA) is also used to detect antibodies specific to *E. histolytica* in countries without endemic disease. Ultrasound and magnetic resonance imagining (MRI) can be used to detect liver abscesses. [13]

J. Treatment

Treatment should be provided to all positive patients with *E. histolytica*, regardless of symptoms. Paromomycin, iodoquinol, or diloxanide furoate should be given to asymptomatic cyst excreters (intraluminal infections). Symptomatic patents (intestinal or extraintestinal disease, including liver abscesses) should be treated with metronidazole or tinidazole. Corticosteroids and antimotility drugs can worsen symptoms. They should never be used to treat amebiasis.[13]

III. EPIDEMIOLOGIC CASE INVESTIGATION

The public health authority should begin investigating the case of Amebiasis, step by step, within one working day of notification or in alignment with NAC 441A.

A. Step 1: Review relevant information about the disease.

1. Review scientific information in Control of Communicable Diseases Manual, most recent edition.

2. Review amebiasis most recent case definition (1990 CDC).

B. Step 2: Begin investigating the case.

1. Contact Reporting Source and/or Reported Case

Upon receiving an initial case report, review lab test results and available clinical details and epidemiologic factors. Please make three attempts to contact the case (text and phone calls) on separate days, at different times of the day (morning, afternoon, late afternoon). Document all attempts to contact a reporting source and/or reported case, preferably in the "Encounters" tab of EpiTrax. Please use case report forms (CRF) to gather accurate information about the case. Focus on the key data elements listed above. Filling out an electronic version of the CRF in EpiTrax (called a Confidential Morbidity Report (CMR) in EpiTrax) is preferred. If used, the completed PDF version should be attached to the CMR in EpiTrax. The CRF should be completed within 7 days of completing the investigation of the case.[11]

C. Step 3: Identify potential sources of infection

The investigation focuses on exposures in the 2 to 4 weeks before onset. Ask about any risk factors for infection including travel, exposure to contaminated food or water, and any risky sexual contact.

D. Step 4: Initiate control measures for case and/or for contacts (see Section IV – Section VI below).

E. Step 5: Provide Education and Prevention messaging to the case and/or contacts (see Section IX below).

IV. CONTROL OF CASE

1. Management/Exclusions for Specific Groups or Settings

	Positive for E. histolytica[15]
Sensitive Occupation*	Excluded from work (food, childcare, or medical) until: • An effective antiparasitic regimen has been completed by case, verified by health care provider; • 3 negative fecal specimens, collected 24 hours apart, and at least 48 hours after cessation of antiparasitic treatment; OR • Asymptomatic and no indication of poor hand hygiene.
Childcare/School Attendee	• Must be symptom free for at least 24 hours. • Provider childcare facility with proper hand hygiene practices.
Case in a Medical Facility	• Recommend standard and enteric precautions
General Population	Instruct on the need and proper method of hand washing after defecation.

2. Exclusion Notifications

Employers: Discuss exclusion criteria with case and inform them that their employer will be notified of exclusion due to a communicable disease. DO NOT DISCLOSE CASE HAS AMEBIASIS. Work with the case to obtain contact information for their supervisor. Provide a signed letter from the Office of State Epidemiology explaining exclusion and return to work criteria. Coordinate additional testing and follow up. Once the case meets release criteria, send a release to work letter to the supervisor.

Childcare Attendees: Inform case/guardian of exclusion criteria and inform them that the childcare facility will be notified. DO NOT DISCLOSE CASE HAS AMEBIASIS. Call facility to exclude the case and provide any education on proper hand hygiene practices.

Medical facility: Alert the infection preventionist (IP) of the case/infection. Investigators are allowed to disclose diagnosed conditions. IP staff typically handle work exclusion and return requirements. If there is no IP staff or staff leaves exclusion to the health department, follow the guidance outlined above.

V. CONTROL OF CONTACTS

Per NAC 441.455, symptomatic contacts who work in food, childcare, or healthcare services will be excluded until one stool specimen is collected. If positive, treat as a case and follow exclusion guidelines.[15]

VI. CONTROL OF CARRIERS

Asymptomatic individuals residing in areas where amebiasis occur more frequently may shed the parasite in their feces for weeks, months, or years. No carrier controls have been identified, provide education and prevention.

VII. MANAGEMENT OF SPECIAL SITUATIONS/OUTBREAK CONTROL

Coordinate with senior epidemiology staff to determine if an outbreak is occurring. If so, notify DPBH Environmental Health, local health authorities, or infection control, as appropriate.

VIII. PREVENTION[12,13]

- Practice good hand hygiene, especially after using the bathroom, changing diapers, and before handling or preparing food or drinks.
- If traveling to an area with poor sanitary conditions:
    - Do not eat or drink:
        - Fountain drinks or any drinks with ice cubes
        - Fresh fruit or vegetables that are already peeled
        - Milk, cheese, or dairy products that may not have been pasteurized
        - Food or drinks by any street vendors
    - Safe to drink:
        - Bottled water with unbroken seal
        - Carbonated (bubbly) water from sealed cans or bottles
        - Carbonated drinks like soda from sealed cans or bottles
        - Tap water that has been boiled for at least 1 minute or water that has been filtered and treated.
- Use a condom or avoid any sexual activity with those who have diarrhea or recently recovered from diarrhea.
- Avoid use of recreational body of water (e.g., swimming pools, water parks) until antiparasitic therapy is complete

The Nevada OSE website also provides information about amebiasis.

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X. ACKNOWLEDGEMENTS

This document was developed based on the content and format of the disease investigation guidelines of several state and local health jurisdictions:

- Oregon Health Authority Investigative Guidelines
- Washington State Department of Health Reporting and Surveillance Guidelines
- Washoe County Health District Epidemiology and Communicable Disease Program Investigation of Communicable Disease Manual

The Nevada Office of State Epidemiology would like to acknowledge the work of these great partners.

XI. UPDATE LOG

12/02/2025

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Chief Medical Officer Approval Date